## 6523.0 - Household Income and Income Distribution, Australia, 2003-04

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# Summary

## Main Features

### ABOUT THIS PUBLICATION

29/08/2008 Note: A PDF version of the publication has been added to this issue. All material was previously available in HTML format, and the data are unchanged. The PDF file has been created from other electronic formats and does not necessarily have the same appearance and functionality as later releases.

This publication presents estimates of the income, net worth and other characteristics of households and persons resident in private dwellings in Australia, compiled from the 2003–04 Survey of Income and Housing (SIH). It includes estimates of the distributions of both income and wealth across the population.

### CHANGES IN THIS ISSUE

Changes in the contents of this issue are:

- the inclusion of household net worth data in many tables, and the introduction of a new table showing income and household characteristics by net worth quintile
- the replacement of the variable "household composition" with the variable "family composition of household".

Changes in the SIH which are likely to have impacted on the data in this issue include:

- a larger sample of 22,315 persons for 2003-04 compared to 19,400 for 2002-03 (lower sample error)
- previous SIH cycles had selected dwellings from those that had been respondents for eight months in the monthly population survey, whereas from 2003-04 the SIH sample is drawn from dwellings not recently included in an ABS household survey (possible change in response bias)
- interviewer use of a laptop computer instead of a paper form to collect information from respondents (possible improvement in data capture)
- an expanded range of questions to collect details about income - in particular, information was collected about expected income in the current financial year from own unincorporated business and investments, whereas previous "current period" estimates for these components of income were based only on information about reported income for the previous financial year (a significant impact on the coverage of such income streams in current income measures)
- a comprehensive range of questions to collect details about the assets and liabilities of the household, which may have improved the quality of reporting of associated income streams
- the integration of the SIH with the Household Expenditure Survey (HES), refer to **Explanatory Notes** for further information
- selection of household reference person no longer influenced by differing income unit tenure types within the household.

Where the impacts of the above changes have, or are likely to have, impact on the assessment of changes over time, these breaks in series are discussed in the **summary of findings**, including the quantification of the impacts where possible.

### EFFECTS OF ROUNDING

Where figures have been rounded, discrepancies may occur between sums of the component items and totals. Published percentages are calculated prior to rounding of the figures and therefore some discrepancy may exist between these percentages and those that could be calculated from the rounded figures.

## INQUIRIES

For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070 or Jan Gatenby on Canberra (02) 6252 6174.

## SUMMARY OF FINDINGS

### INTRODUCTION

The economic wellbeing of individuals is largely determined by their command over economic resources. People's income and reserves of wealth provide access to many of the goods and services consumed in daily life. This publication provides indicators of the level and distribution of after tax (disposable) household cash income and wealth, after adjusting for household size and composition.

The estimates of disposable income in this publication are derived from the gross cash income data collected in the Survey of Income and Housing (SIH), after deducting estimates of income tax liability and the Medicare levy. Gross cash income is defined as regular and recurring cash receipts from wages and salaries, profit/loss from own unincorporated business, investment income in the form of interest, rent and dividends, private transfers in the form of superannuation, child support, other transfers from other households, and cash transfers from government pensions and allowances. The restriction to cash incomes is one of practical measurement and is assessed to provide a reasonable, broad picture of the level and distribution of income. However, readers are advised that the relative mix of cash and non-cash incomes across subpopulations will be different, and can change over time.

While income is usually received by individuals, it is normally shared between partners in a couple relationship and with dependent children. To a lesser degree, there may be sharing with other members of the household. Even when there is no transfer of income between members of a household, nor provision of free or cheap accommodation, members are still likely to benefit from the economies of scale that arise from the sharing of dwellings. The income measures shown in this publication therefore relate to household income. However, larger households normally require a greater level of income to maintain the same material standard of living as smaller households, and the needs of adults are normally greater than the needs of children. The income estimates are therefore adjusted by equivalence factors to standardise the income estimates with respect to household size and composition while taking into account the economies of scale that arise from the sharing of dwellings. The equivalised disposable income estimate for any household in this publication is expressed as the amount of disposable cash income that a single person household would require to maintain the same standard of living as the household in question, regardless of the size or composition of the latter.

**Appendix 3** provides a more detailed explanation of equivalised disposable household income. It shows the differences in income measures when calculated from data at different stages in progression from gross household income, through disposable household income, to person weighted equivalised disposable household income.

### KEY RESULTS

Some of the key income results from the 2003–04 SIH are:

- for households with middle and high income levels in 2003–04, wages and salaries were the principal source of income, while for low income households government pensions and allowances were the main income source
- middle income households contained more people on average than both low and high income households but contained considerable fewer employed persons than high income households (1.5 compared to 1.9)
- low income households had on average 0.5 employed persons
- people aged 65 and over had the lowest mean incomes in 2003–04

- elderly lone people were more likely than elderly couples to have government pensions and allowances as their principal source of income (77% compared to 68%)
- elderly lone people were less likely than elderly couples to own their own home without a mortgage (74% compared to 85%)
- average incomes in the capital cities in Australia were 16% above those outside the capital cities
- average incomes in the Australian Capital Territory and the Northern Territory were well above the national average
- incomes in Tasmania and Queensland were at least 5% below the national average
- while it is difficult to assess changes in income distribution over time due to the methodological improvements introduced with the 2003–04 survey, it appears that there has been no significant change in income inequality from the mid 1990s to 2003–04
- in real terms, before taking account of the breaks in series between 2002–03 and 2003–04, average equivalised disposable household income in 2003–04 ($549) was 5% higher than in 2002–03 ($522) in part reflecting the one-off payments to families and carers, which, on average, increased gross weekly household incomes by about $6, and equivalised disposable household incomes by a little over $4 per week
- again before taking account of breaks in series, the incomes of low income households (i.e. those people with household income between the bottom 10% and bottom 30% of incomes) in 2003–04 grew by 9% ($24 per week), compared to 7% for middle income people and 3% for high income people; more than one quarter of the increase for the low income people resulted from the one-off payments to families and carers in 2003–04
- over the period from 1994–95, there was an estimated 22% increase in the real mean income of both low income people and middle income people and 19% for high income people but the methodological changes may have had some impact on these estimates.

Some of the key net worth results from the 2003–04 SIH are:

- the wealthiest 20% of households in Australia account for 59% of total household net worth, with average net worth of $1.4 million per household
- the poorest 20% of households account for 1% of total household net worth, with an average net worth of $23,000 per household
- the households in which the 20% of people with the lowest equivalised household incomes live account for 15% of total household net worth, similar to the shares of net worth held by the households with people in the second and third equivalised household income quintiles
- the households in which the 20% of people with the highest equivalised household incomes live account for 37% of total household net worth.

**METHODOLOGICAL CHANGES AND INCOME MEASURES**

The changes in methodology between 2002–03 and 2003–04, listed in the **Notes** to this publication, have impacted on the comparison of the 2003–04 results with those for earlier cycles. While not all impacts can be quantified, the potential significance of the impacts on various sources of income are discussed below.

For **wages and salaries**, no obvious impacts were detected. Average wages and salaries in the 2003–04 results are 4.8% higher than in 2002–03, in line with the increase in average total weekly earnings reported in ABS business surveys. For selected distributional measures of gross wage and salary income (the Gini and the quintile income shares) the distributions in the two years are very similar.

For **government pensions and allowances**, no obvious impacts were detected. For 2003–04, the coverage of survey reported benefits compared to the benefits and allowances paid by government was slightly above the longer term average in cycles from the mid to late 1990s, but within one standard error of that average. Therefore, while a benefit benchmark had been introduced for the 1999–00 and 2000–01 cycles (when coverage fell significantly), no benchmark was used in either 2002–03 or 2003–04.

For **investment income**, the change in 2003–04 to ask about current income, rather than imputing the income on a "no change" assumption from reported income for the previous financial year, has been significant. In the 2002–03 results, the imputed total current investment income estimate was $16.2 billion. This simple imputation methodology, which had been used since the mid 1990s as the practical approximation to measuring current investment income, did not always result in year to year movements that were consistent with the related property income series in the household income account of the Australian National Accounts. This was particularly so for the current income imputed estimates for 2003–03. In 2003–04, respondents reported investment income amounts earned in 2002–03 at $19.8 billion, and current

income in 2003–04 at $22.3 billion. The year on year movement between the current and previous year investment incomes reported in 2003–04 is broadly in line with the related national accounts series. The difference between the imputed amount for 2002–03 and the subsequently reported amount for that year contributes about $9 to the increase between the results for 2002–03 and 2003–04 in average gross weekly household incomes.

The change in methodology to capture reported current income was expected to produce a one-off break in the level of the household income series. It is also expected to provide a significant improvement in the future investment income and total income series. However, from the testing that has been undertaken, it is not obvious that the change in methodology has significantly affected income distribution measures. For the Gini and the quintile income shares, the change in gross household income distributions by excluding investment income is very similar for 2002–03 and 2003–04. Increasing the 2002–03 imputed investment income amounts by the ratio of reported to imputed incomes results in very little change to the selected income distribution measures for 2002–03.

As for investment income, for **income from own unincorporated business** ('business income') there was a change in 2003–04 to ask about current income, rather than imputing the income on a "no change" assumption from reported income for the previous financial year. In the 2002–03 results, the imputed total current business income estimate was $33.2 billion. This did not reflect the decline in the related national accounts series for mixed income of households (adjusted to deduct depreciation and interest payments). In 2003–04, respondents reported business income amounts earned in 2002–03 at $28.0 billion, and current income in 2003–04 at $31.2 billion. The year on year movement between the current and previous year business incomes reported in 2003–04 is broadly in line with the related national accounts series. The difference between the imputed amount for 2002–03 and the subsequently reported amount for that year contributes about -$13 to the change between the results for 2002–03 and 2003–04 in average gross weekly household incomes.

Together the improved methodology for both investment income and own unincorporated business income largely offset each other in mean income terms when comparing 2003–04 to 2002–03.

Income from **superannuation, annuities or allocated 'private' pensions** (other than government benefits such as the age pension) is higher in 2003–04 than in 2002–03. These amounts have been recorded in previous survey cycles as current income amounts, and no explicit change in methodology affects the reporting of these values. However, it is possible that changes in non-response have impacted on the series, or that the reporting of superannuation assets in conjunction with income has improved the quality of reporting. The increase in gross weekly household incomes from superannuation etc. of about $7 between 2002–03 and 2003–04 is statistically significant (about 3 standard errors). It is also likely that the reported superannuation assets are an underestimate of the total value of these assets and it may be that the superannuation income series, although higher than previously reported, is still a somewhat conservative measure.

**HOUSEHOLD INCOME**

In 2003–04, average (mean) equivalised disposable household income for all persons living in private dwellings (i.e., the income that a single person household would require to maintain the same standard of living as the average person living in all private dwellings in Australia) was $549 per week (**table 1**). There were approximately 19.6 million people living in these dwellings.
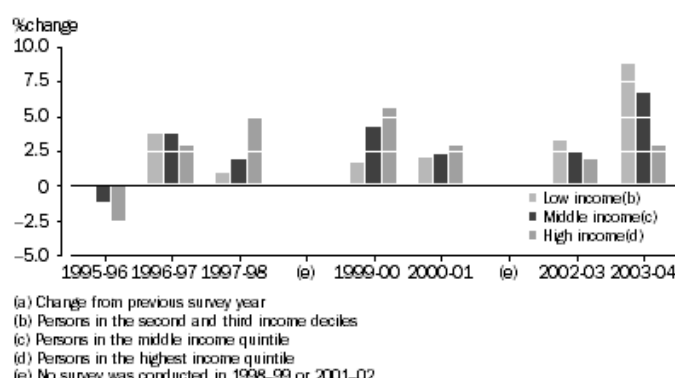
In real terms, before taking account of the breaks in series between 2002–03 and 2003–04, average equivalised disposable household income in 2003–04 ($549) was 5% higher than in 2002–03 ($522) and 21% higher than in 1994–95 ($455). Between 2002–03 and 2003–04, the $27 increase in real mean income in part reflects the one-off payments to families and carers announced in the May 2004 Australian government budget. About $2.2 billion was payable to families in 2003–04 under this initiative which, on average, increased gross weekly household incomes by about $6, and equivalised disposable household incomes by a little over $4 per week. Increases in real incomes between the 2 years also reflects higher average wages and salaries (up 4.8% in 2003–04).

The increase in real average equivalised disposable household income from 2002–03 has been muted somewhat by the net impacts of the imputation in 2002–03 for own unincorporated business and investment income (discussed above) which overstated the combined incomes from these sources.

For low income people (represented by the 20% of people with household income between the bottom 10% and bottom 30% of incomes), average equivalised disposable household income in 2003–04 grew by 9%

($24 per week), compared to 7% for middle income people and 3% for high income people. About $7 (or more than one quarter) of the increase for the low income people resulted from the introduction of the one-off payments to families and carers in 2003–04. The net impact of these one-off payments on the real mean equivalised disposable household incomes of high income households was less than $1 per week. Over the period from 1994–95, there was a 22% increase in the real mean incomes of both low income people and middle income people and 19% for high income people.

### S1. CHANGES IN MEAN REAL EQUIVALISED DISPOSABLE HOUSEHOLD INCOME(a)



(a) Change from previous survey year
(b) Persons in the second and third income deciles
(c) Persons in the middle income quintile
(d) Persons in the highest income quintile
(e) No survey was conducted in 1998–99 or 2001–02

### Household characteristics

Households with different income levels tend to differ with respect to other characteristics, as shown in **(table 6)**. and summarised in the following table. Wages and salaries were the principal source of income (PSI) for households with middle and high income levels in 2003–04, while government pensions and allowances dominated for low income households. However, low income households had the highest incidence of full ownership of their home, reflecting the high proportion of elderly people in the low income category.

### S2. HOUSEHOLD CHARACTERISTICS 2003–04, By income group

|  |  | Low income(a) | Middle income(b) | High income(c) |
|---|---|---|---|---|
| Mean equivalised disposable household income per week | $ | 300 | 492 | 1027 |
| Has PSI of wages and salaries(d) | % | 21.0 | 76.0 | 85.9 |
| Has PSI of government pensions and allowances(d) | % | 69.8 | 5.6 | **0.1 |
| Owns home without a mortgage | % | 47.7 | 30.4 | 25.5 |
| Owns home with a mortgage | % | 16.9 | 41.2 | 51.7 |
| Rents from state/territory housing authority | % | 8.9 | 1.6 | *0.2 |
| Rents from private landlord | % | 21.4 | 23.5 | 19.6 |
| Average number of persons in the household | no. | 2.5 | 2.8 | 2.5 |
| Average number of employed persons in the household | no. | 0.5 | 1.5 | 1.9 |

* estimate has a relative standard error of 25% to 50% and should be used with caution
** estimate has a relative standard error greater than 50% and is considered to be unreliable for general use
(a) Persons in the second and third income deciles
(b) Persons in the middle income quintile
(c) Persons in the highest income quintile
(d) Principal source of income

Middle income households contained more people on average than high income households (2.8 compared to 2.5) but contained considerably fewer employed persons (1.5 compared to 1.9). In part, this reflects the different age profiles of the two groups. **Table 6** shows that middle income households (shown as the third quintile) had an average of 0.8 persons under the age of 18 and 0.2 aged 65 and over, compared to 0.4 and 0.1 respectively for high income households. Low income households (shown as second and third deciles) had an average of 0.5 employed persons, and housed an average of 2.5 persons. Of these, 1.1 were 18 to 64 years, with 0.7 under 18 years and 0.6 persons aged 65 years and over.

The characteristics of Australian households are changing over time. **Table 3** shows that the average number of persons per household declined from 2.69 to 2.53, or about 6%, between 1994–95 and 2003–04, with about half the decline being in the under 18 age group. The proportion of lone person households, couple only households and households comprising one parent with dependent children all increased. Each principal source of income retained its relative importance between 1994–95 and 2003–04, with about 57.5% of households primarily dependent on wages and salaries. The proportion of households reliant on government pensions and allowances was 27.7% in 2003–04, up from 26.6% in 2002–03 but down from

28.4% in 1994–95. Home ownership remained relatively stable at around 70% of households throughout this period, but an increasing proportion of owners had a mortgage.

## Life cycle stages

The range of income levels across the population partly reflects the different life cycle stages that people have reached. A typical life cycle includes childhood, early adulthood, and the forming and maturing of families, as illustrated in **table 12**. Other family situations and household compositions are shown in **table 11**. The following table compares households in different life cycle stages.

### S3. INCOME AND HOUSEHOLD CHARACTERISTICS FOR SELECTED LIFE CYCLE GROUPS, 2003–04

|  | Number of households | Average number of persons | Average number of employed persons | Average number of dependent children | Proportion with govt. benefits as PSI(a) | Mean equivalised disposable household income per week | Proportion owning home without mortgage |
|---|---|---|---|---|---|---|---|
|  | ('000) | no. | no. | no. | % | $ | % |
| Lone person aged under 35 | 336.1 | 1.0 | 0.8 | – | 12.9 | 567 | *3.0 |
| Couple only, reference person aged under 35 | 411.7 | 2.0 | 1.8 | – | *2.0 | 821 | 2.9 |
| Couple with dependent children only |  |  |  |  |  |  |  |
| Eldest child aged under 5 | 417.0 | 3.4 | 1.5 | 1.4 | 6.2 | 557 | 6.9 |
| Eldest child aged 5 to 14 | 866.0 | 4.2 | 1.6 | 2.2 | 8.4 | 536 | 13.2 |
| Eldest child aged 15 to 24 | 515.4 | 4.2 | 2.3 | 2.2 | 7.7 | 556 | 27.1 |
| Couple with |  |  |  |  |  |  |  |
| Dependent and non-dependent children only | 241.8 | 4.9 | 3.0 | 1.6 | 7.0 | 566 | 32.8 |
| Non-dependent children only | 431.1 | 3.3 | 2.2 | – | 12.2 | 652 | 51.2 |
| Couple only, reference person aged 55 to 64 | 509.7 | 2.0 | 1.0 | – | 27.7 | 547 | 69.0 |
| Couple only, reference person aged 65 and over | 610.4 | 2.0 | 0.2 | – | 68.1 | 396 | 85.2 |
| Lone person aged 65 and over | 676.6 | 1.0 | – | – | 77.2 | 350 | 74.4 |
| One parent, one family households with dependent children | 526.6 | 2.9 | 0.8 | 1.7 | 54.2 | 391 | 10.8 |

* estimate has a relative standard error of 25% to 50% and should be used with caution
- nil or rounded to zero (including null cells)
(a) Principal source of income

Of the groups included in the table, the group with the highest mean equivalised income was younger couples without children. Their mean equivalised disposable household income was $821 per week, with the average number of employed persons in the household being 1.8. For couples with dependent children only, and with the eldest child being under five, their mean equivalised disposable household income was $557 per week. Compared with younger couples without children, this lower income reflects a 12% lower after tax income, principally reflecting the lower average number of employed persons in these households (1.5) and the larger average household size (3.4 persons) over which incomes are shared. Average incomes were higher for households with non-dependent children, reflecting higher proportions of employed persons in these households, but were lower again for households comprising older couples and lone persons, where the numbers of employed persons were substantially lower.

People aged 65 and over had the lowest mean incomes, with lone persons' incomes at $350 per week, somewhat lower than older couple only household incomes at $396 per week. Elderly lone persons were more likely than elderly couples to have government pensions and allowances as their principal source of

income (77% compared to 68%), while couples were more likely to fully own their home (85% compared to 74%).

Households comprising one parent with dependent children had a mean income of $391 per week, similar to that of elderly couples ($396 per week), but only 11% of the one parent households fully owned their home and therefore a substantially greater proportion had to make mortgage or rental payments from their income. Of these households, 54% had government pensions and allowances as their principal source of income. On average they had 0.8 employed persons in the household.

**States and territories**

There are considerable differences in the average levels of income between the states and territories (see **table 16**). However, not all the differences are large enough to be regarded as statistically significant at the 95% confidence level (see **Appendix 4**). Tasmania's mean weekly income was 13% below the national mean income level and Queensland was 5% below. In **table 16** the Australian Capital Territory and the Northern Territory are shown to have the highest mean incomes (22% and 17% above the national average respectively). The high income levels reflect in part the younger age profile of the ACT and NT. However, it also reflects the exclusion from the results of households in collection districts in the NT defined as very remote or Indigenous Communities which, if included, would be likely to significantly reduce the mean incomes in that territory. The NT estimates of equivalised disposable income are subject to large relative standard errors and should be used with caution. New South Wales also recorded a mean income 4% above the national mean.

There are also considerable differences between the equivalised disposable household incomes recorded in capital cities in Australia compared to those earned elsewhere. At the national level, mean incomes in the capital cities were 16% above those in the balance of state, and in New South Wales, Tasmania, Victoria and South Australia (separate information is not available for the ACT and NT) the capital city mean incomes were above those in the balance of state. The largest differences recorded were for NSW and Tasmania where the capital city incomes were 26% and 24% respectively, above the mean incomes across the rest of the state.

**INCOME DISTRIBUTION**

While the mean equivalised disposable household income of all households in Australia in 2003–04 was $549 per week, the median (i.e. the midpoint when all people are ranked in ascending order of income) was somewhat lower at $491 (shown as P50 in **table 1**). This difference reflects the typically asymmetric distribution of income where a relatively small number of people have relatively very high household incomes, and a large number of people have relatively lower household incomes, as illustrated in the following frequency distribution graph.

**S4. DISTRIBUTION OF EQUIVALISED DISPOSABLE HOUSEHOLD INCOME, 2003–04**
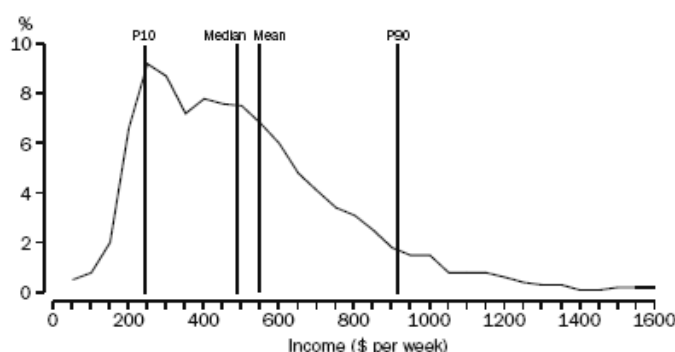


Note: Persons with an income between $25 and $1,625 are shown in $50 ranges on the graph.

Percentile ratios are one measure of the spread of incomes across the population. P90 (i.e. the income level dividing the bottom 90% of the population from the top 10%) and P10 (i.e. dividing the bottom 10% of the population from the rest) are shown on the above graph. In 2003–04, P90 was $912 per week and P10 was $246 per week, giving a P90/P10 ratio of 3.70. Various percentile ratios for eight years are shown in the following table, and the changes in these ratios (discussed below) can provide a picture of changing income

distribution over time.

Another measure of income distribution is provided by the income shares going to groups of people at different points in the income distribution. The following table shows that, in 2003–04, 10.9% of total equivalised disposable household income went to people in the 'low income' group (i.e. the 20% of the population in the 2nd and 3rd income deciles), with 37.4% going to the 'high income' group (i.e. the 20% of the population in the highest income quintile).

The Gini coefficient is a single statistic that lies between 0 and 1 and is a summary indicator of the degree of inequality, with values closer to 0 representing a lesser degree of inequality, and values closer to 1 representing greater inequality. For 2003–04, the Gini coefficient was 0.294. About one third of the decline in the Gini coefficient between 2002–03 and 2003–04 (down about 5%) results from the introduction of the new payment to families and carers. This real world effect also explains a significant proportion of the movement in the remaining indicators in the following table.

Some of the change in the indicators between 2002–03 and 2003–04 will reflect methodological improvements introduced in 2003–04 (discussed above), although it is not possible to quantify these impacts on the distributional measures shown in the following table. However, if the former method of imputing business and investment incomes based on reported previous year incomes had been continued for 2003–04, the Gini coefficient would have been about 1% higher.

While it is difficult to assess changes in income distribution over time due to the methodological improvements introduced with the 2003–04 survey, it appears that there has been no significant change in income inequality from the mid 1990s to 2003–04. If only the real impact of the one-off payments to families and carers were to be taken into account, the Gini coefficient for 2003–04 would be below the estimate for 2002–03, and not significantly different from the Gini coefficients for either 1994–95 or 1995–96. This pattern would also be reflected in the other selected indicators of income distribution.

Please refer to **Appendix 1** for more information on analysing income distribution.

### S5. SELECTED INCOME DISTRIBUTION INDICATORS, Equivalised disposable household income

|  |  | 1994–95 | 1995–96 | 1996–97 | 1997–98 | 1999–2000 | 2000–01 | 2002–03 | 2003–04 |
|---|---|---|---|---|---|---|---|---|---|
| **Ratio of incomes at top of selected income percentiles** | | | | | | | | | |
| P90/P10 | ratio | 3.77 | 3.73 | 3.66 | 3.77 | 3.89 | 3.98 | 4.00 | 3.70 |
| P80/P20 | ratio | 2.56 | 2.58 | 2.53 | 2.56 | 2.64 | 2.63 | 2.63 | 2.49 |
| P80/P50 | ratio | 1.55 | 1.58 | 1.56 | 1.56 | 1.57 | 1.56 | 1.57 | 1.52 |
| P20/P50 | ratio | 0.61 | 0.61 | 0.62 | 0.61 | 0.59 | 0.59 | 0.60 | 0.61 |
| **Percentage share of total income received by persons with** | | | | | | | | | |
| Low income(a) | % | 10.8 | 11.0 | 11.0 | 10.8 | 10.5 | 10.5 | 10.6 | 10.9 |
| Middle income(b) | % | 17.7 | 17.7 | 17.8 | 17.7 | 17.7 | 17.6 | 17.6 | 17.9 |
| High income(c) | % | 37.8 | 37.3 | 37.1 | 37.9 | 38.4 | 38.5 | 38.3 | 37.4 |
| Gini coefficient | no. | 0.302 | 0.296 | 0.292 | 0.303 | 0.310 | 0.311 | 0.309 | 0.294 |

(a) Persons in the second and third income deciles
(b) Persons in the middle income quintile
(c) Persons in the highest income quintile

## WEALTH DISTRIBUTION

The distribution of net worth across households is very unequal, partly reflecting the common pattern of people gradually accumulating wealth throughout their working life. In 2003–04 the poorest 20% of households account for only 1% of total household net worth, with an average net worth of $23,000 per household. The share of net worth increases with each higher net worth quintile, with 6% for the second quintile, 13% for the third quintile, 21% for the fourth quintile, while the wealthiest 20% of households in Australia account for 59% of total household net worth, with average net worth of $1.4 million per household.

The distributional pattern of net worth is also marked when considered in terms of sources of income. The households with people where the principal source of household income (PSI) is 'other' income (principally investment income) had average household net worth of $1.1 million, while for those where the PSI was government pensions and allowances the average household net worth was $249,000. Net worth in renter households was on average only about 10% of the net worth in owner households with no mortgage, and

about 20% of owner households with a mortgage.

The picture of wealth (net worth) is a little different and more equally distributed when viewed from the perspective of the distribution of incomes. The households in which the 20% of people with the lowest household incomes live account for 15% of total household net worth, similar to the shares of net worth held by the households with people in the second and third household income quintiles. The households in which the 20% of people with the highest household incomes live account for 37% of total household net worth.

## About this Release

### ABOUT THIS RELEASE

Previously: Survey of Income and Housing Costs and Amenities: Income Distribution: Income Units, Australia. Released under that title for 1990. Current title used for 1994-95 issues onwards.

Details are presented on the distribution of income in Australia, data on the various characteristics of households (married couple, one parent and one-person units), their composition, and the principal source of income, age and employment status of reference person.

Irregular from 1978-79 to 1990. Annual as from 1994-95. Biannual from 2001.

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# Explanatory Notes

## Explanatory Notes

### INTRODUCTION

1 This publication presents a summary of the findings from the 2003–04 Survey of Income and Housing (SIH). The survey collected detailed information about the income, assets, liabilities and household characteristics of persons aged 15 years and over resident in private dwellings throughout Australia.

2 The 2003–04 Household Expenditure Survey and Survey of Income and Housing, Australia: User Guide, expected to be released in October 2005, will assist users in evaluating and interpreting results from this survey.

3 The SIH was conducted continuously from 1994–95 to 1997–98, and then in 1999–2000, 2000–01, 2002–03 and 2003–04. The 2003–04 SIH included an expanded sample of approximately 11,000 households, which were enumerated from July 2003 to June 2004. In future, the SIH will be conducted with an 11,000 household sample, every two years.

4 Previous surveys of household income were conducted by the Australian Bureau of Statistics (ABS) in 1979, 1982, 1986 and 1990. These surveys were generally conducted over a two-month period, compared to a twelve-month period for the SIH. The SIH also included improvements to the survey weighting and estimation procedures, changes to the population in scope and changes to interviewing methods.

#### Changes in this issue

5 A number of major changes designed to improve survey quality have been introduced in the 2003–04 SIH. In some cases the changes may impact on the comparability between the 2003–04 estimates and earlier data, but it is generally not possible to quantify the extent of any discontinuity. Changes expected to have improved the quality of the data include:

- a larger sample of 11,361 households (comprising 22,315 persons aged 15 and over) for 2003–04 compared to 10,211 households (comprising 19,400 persons aged 15 and over) for 2002–03 (lower sample error)
- previous SIH cycles had selected dwellings from those that had been respondents for eight months in

the monthly population survey (MPS), whereas from 2003–04 the SIH sample is drawn from dwellings not recently included in an ABS household survey (possible change in response bias)

- interviewer use of a laptop computer instead of a paper form to collect information from respondents (possible improvement in data capture)
- an expanded range of questions to collect details about income - in particular, information was collected about expected income in the current financial year from own unincorporated business and investments, whereas previous "current period" estimates for these components of income were set based only on information about reported income for the previous financial year (a significant impact on the coverage of such income streams in current income measures)
- a comprehensive range of questions to collect details about the assets and liabilities of the household, which may have improved the quality of reporting of associated income streams

6 The 2003–04 SIH has been integrated with the 2003–04 HES. This integration has been achieved by selecting a subsample of the households in the SIH survey and asking them the additional questions required for HES purposes. Respondent burden is lower than if the two surveys were not integrated. Also, the resultant dataset is richer because HES and SIH results are more comparable than previously. However, response rates for HES subsample are lower than achieved in the 2003–04 SIH-only sample component because of the reluctance of some respondents to provide the extra information required in the HES part of the survey. It is therefore possible that the differing reasons for non-response in the 2003–04 SIH result in different biases to those resulting from non-response when the SIH was conducted in conjunction with MPS.

7 In previous SIHs, the household reference person was chosen from an income unit within the household that had the highest tenure type. Tenure type has been collected for households but not for income units in the 2003–04 SIH. The tenure type of income units is therefore no longer used in determining which person in the household is to be designated as household reference person.

8 The methodology of the 2003–04 SIH, including the collection of household asset and liability information, is being retained for the 2005–06 SIH, except that there will be no HES subsample in 2005–06. The next HES subsample will be included in 2009–10.

9 Changes in the contents of this issue are:

- the inclusion of household net worth data in many tables, and the introduction of a new table showing income and household characteristics by net worth quintile
- the replacement of the data item "household composition" with the data item "family composition of household", which better meets user requirements for the treatment of households with dependent children.

**CONCEPTS AND DEFINITIONS**

10 The concepts and definitions relating to statistics of income and net worth are described in the following section. Other definitions are included in the **glossary**.

**Person and household data**

11 A major determinant of economic wellbeing for most people is the level of income they and other family members in the same household receive.

12 While income is usually received by individuals, it is normally shared between partners in a couple relationship and with dependent children. To a lesser extent, it may be shared with other children, other relatives and possibly other people living in the same household, for example through the provision of free or cheap accommodation. This is particularly likely to be the case for children other than dependants and other relatives with low levels of income of their own. Even when there is no transfer of income between members of a household, nor provision of free or cheap accommodation, members are still likely to benefit from the economies of scale that arise from the sharing of dwellings.

13 Household characteristics, including household income, are therefore the main information required for analysing income distribution. However, it is the number of people who belong to households with particular characteristics, rather than the number of households with those characteristics, that is of primary interest in measuring income distribution and leads to the preference for the equal representation of those persons in such analysis. For example, if the person is used as the unit of analysis rather than the household, then the representation in the income distribution of each person in a household comprising four persons is the same

as that for each person in a household comprising two persons. In contrast, if the household were to be used as the unit of analysis, each person in the four person household would only have half the representation of each person in the two person household.

14 In this publication, the income distribution measures are all calculated with respect to persons, including children. Such measures are sometimes known as person weighted estimates. They are described in more detail in **Appendix 1**. Nevertheless, as most of the relevant characteristics of persons relate to their household circumstances, **tables 6 to 16** primarily describe the households to which people belong.

**Income**

15 Income refers to regular and recurring cash receipts from employment, investments and transfers from government, private institutions and other households. Gross income is the sum of the income from all these sources before income tax and the Medicare levy have been deducted. This differs from the household income definition used in the Australian System of National Accounts (ASNA). A detailed comparison of 1997–98 SIH and ASNA estimates was published as an appendix to the 1997–98 issue of this publication. Comparison of SIH data from 1994–95 to 2003–04 with ASNA data indicated that the relationship between the two estimates had not changed significantly over that period.

16 Sources from which income may be received include:

- wages and salaries (whether from an employer or own corporate enterprise)
- profit/loss from own unincorporated business (including partnerships)
- investment income (interest, rent, dividends, royalties)
- government pensions and allowances
- private cash transfers (e.g. superannuation, regular workers' compensation, income from annuities, child support, and other transfers from other households).

17 Receipts which are excluded from income because they are not regular or recurring cash payments include the following:

- income in kind including employee benefits such as the provision of a house or a car and employer contributions to pension and superannuation funds - however, income in-kind provided as part of a negotiated salary sacrifice arrangement can be regarded as cash or "near cash" income and included within the scope of income presented in this publication; it is estimated that about two thirds of salary sacrificed income is included in the 2003–04 SIH estimate of gross income
- capital transfers such as inheritances and legacies, maturity payments on life insurance policies, lump sum compensation for injuries or other damage
- capital gains and losses.

18 Receipts of family tax benefit are treated as income, regardless of whether they are received fortnightly or as a lump sum. The aged persons' savings bonus and self-funded retirees' supplementary bonus, paid as part of the introduction of The New Tax System in 2000–01, are regarded as capital transfers as they were designed to help retired people maintain the value of their savings and investments following the introduction of the GST. However, the one-off payment to seniors paid in 2000–01 and the one-off payments to families and carers paid in 2003–04 are included as income as they were primarily a supplement to existing income support payments.

19 While income generally provides a useful indicator of economic wellbeing, there are some circumstances which present particular difficulties. Some households report extremely low and even negative income in the survey, which places them well below the safety net of income support provided by social security pensions and allowances. Households may underreport their incomes in the survey at all income levels, including low income households. However, households can correctly report low levels of income if they incur losses in their unincorporated business or have negative returns from their other investments.

20 Studies of income and expenditure from the 1998–99 HES have shown that such households in the bottom income decile and with negative gross incomes tend to have expenditure levels that are comparable to those of households with higher income levels (and slightly above the average expenditures recorded for the fifth decile), indicating that these households have access to economic resources, such as wealth or that the instance of low or negative income is temporary, perhaps reflecting business or investment start up. Other households in the bottom income decile in the 1998–99 HES had average incomes at about the level of the single pension rate, were predominantly single person households, the average age of the reference person was 53 years, and their principal source of income was largely government pensions and allowances.

However, on average, these households also had expenditures above the average of the households in the second decile, which is not inconsistent with the use of assets to maintain a higher standard of living than implied by their incomes alone.

21 Therefore it can be reasonably concluded that most are unlikely to be suffering extremely low levels of economic wellbeing, and income distribution analysis may lead to inappropriate conclusions if such households are included. For this reason, tables showing statistics classified by income quintile include a supplementary category comprising the second and third deciles, which can be used as an alternative to the lowest income quintile. (For an explanation of quintiles and deciles, see **Appendix 1**.)

**Weekly income**

22 Income is collected using a number of different reporting periods, such as the whole financial year for own unincorporated business and investment income, and the usual payment for a period close to the time of interview for wages and salaries, other sources of private income and government pensions and allowances. The income reported is divided by the number of weeks in the reporting period. Estimates of weekly income in this publication therefore do not refer to a given week within the reference period of the survey.

**Equivalised disposable income**

23 For most analyses in this publication, gross income (as described in the previous paragraphs) is adjusted in two ways to facilitate the comparison of economic wellbeing between households. Firstly, disposable income is derived by deducting estimates of personal income tax and the Medicare levy from gross income. Disposable income better represents the economic resources available to meet the needs of households. A more detailed analysis of 'final' income which looks at the impact of indirect government benefits (i.e. non-cash benefits) and indirect taxes requires detailed information on expenditure patterns which is not available in the SIH. For details of this type of 'final' income analysis see **Government Benefits, Taxes and Household Income, Australia, 1998–99** (cat. no. 6537.0).

24 Disposable income is also adjusted by the application of an equivalence scale to facilitate comparison of income levels between households of differing size and composition, reflecting the requirement of a larger household to have a higher level of income to achieve the same standard of living as a smaller household. Where disposable income is negative, it is set to zero equivalised disposable income. For more information on equivalised income see **Appendix 3**.

**Annual income**

25 The tables in the main body of this publication refer to 'current' weekly income, that is, income being received at the time the data were collected from respondents. The survey also produces measures of 'annual' income that reflect total incomes for the previous financial year. **Appendix 2** explains how current income differs from annual income, notes some of the advantages and disadvantages of the two types of measure and presents some 'annual' income estimates.

**Net worth**

26 Net worth, often referred to as wealth, is the value of a household's assets less the value of its liabilities. Assets can take many forms including:

- produced tangible fixed assets that are used repeatedly and for more than one year, such as dwellings and their contents, vehicles, and machinery and equipment used in businesses owned by households
- intangible fixed assets such as computer software and artistic originals
- business inventories of goods
- non-produced assets such as land
- financial assets such as bank deposits, shares, superannuation account balances, and the outstanding value of loans made to other households or businesses.

27 Liabilities are primarily the value of loans outstanding including:

- credit card debt
- mortgages
- investment loans
- borrowings from other households
- debt on other loans such as personal loans to purchase vehicles, and HECS.

28 In the 2003–04 SIH, some asset and liability data were collected on a net basis rather than collecting for each component listed above. For example, if a survey respondent owned or part owned a business, they were asked how much they would receive if they sold their share of the business and paid off any outstanding debts.

29 While this publication provides some household net worth statistics, principally to aid income analysis, a more comprehensive range of household asset and liability information will be released in December 2005 in a new publication **Household Wealth and Wealth Distribution, 2003–04**.


**SURVEY METHODOLOGY**

**Scope**

30 The survey collects information by personal interview from usual residents of private dwellings in urban and rural areas of Australia, covering about 98% of the people living in Australia. Private dwellings are houses, flats, home units, caravans, garages, tents and other structures that were used as places of residence at the time of interview. Long-stay caravan parks are also included. These are distinct from non-private dwellings which include hotels, boarding schools, boarding houses and institutions. Residents of non-private dwellings are excluded.

31 The survey also excludes:

- households which contain members of non-Australian defence forces stationed in Australia
- households which contain diplomatic personnel of overseas governments
- households in collection districts in the Northern Territory defined as very remote or Indigenous Communities which account for about 23% of the territory's population.


**Data collection**

32 Information for each household was collected using:

- a household level computer assisted interview questionnaire which collected information on household characteristics, assets and liabilities
- an individual level computer assisted interview questionnaire which collected information on income and other personal characteristics from each usual resident aged 15 years and over.


33 Sample copies of the above documents are available upon request and will be included in the **User Guide 2003–04** (cat. no. 6527.0) to be released in October 2005.

**Sample design**

34 The sample was designed to produce reliable estimates for broad aggregates for households resident in private dwellings aggregated for Australia, for each state and for the capital cities in each state and territory. More detailed estimates should be used with caution, especially for Tasmania, the Northern Territory and the Australian Capital Territory (see **Appendix 4**).

35 The SIH sample was designed in conjunction with the HES. In the combined sample, some dwellings were selected to complete both the SIH questionnaire and the HES questionnaire, while other dwellings were selected to complete the SIH questionnaire only. Dwellings were selected through a stratified, multistage cluster design. Selected clusters were split such that approximately one third of households in the cluster received only the SIH questionnaire and two thirds of households in the cluster received both the SIH and HES questionnaires. Selections were distributed randomly across a twelve month enumeration period so that the survey results are representative of income and expenditure patterns across the year. Over the year, about 80% of persons over the age of 15 in this sample responded.

**Non-responding households**

36 Of the 14,545 households selected in the sample, 3,184 did not respond at all to the questionnaire, or did not respond adequately. Such households included:

- households affected by death or illness of a household member

- households in which the significant person(s) in the household did not respond because they could not be contacted, had language problems or refused to participate
- households in which the significant person(s) did not respond to key questions.

**Partial response and imputation**

37 Some other households did not supply all the required information but supplied sufficient information to be retained in the sample. Such partial response occurs when:

- income or other data in a questionnaire are missing from one or more non-significant person's records because they are unable or unwilling to provide the data
- all key questions are answered by the significant person(s) but other data are missing
- not every person aged 15 or over residing in the household responds but the significant person(s) provide(s) answers to all key questions.

38 In the first and second cases of partial response above, the data provided are retained and the missing data are imputed by replacing each missing value with a value reported by another person (referred to as the donor).

39 For the third type of partial response, the data for the persons who did respond are retained, and data for each missing person are provided by imputing data values equivalent to those of a fully responding person (donor).

40 Donor records are selected by finding fully responding persons with matching information on various characteristics, such as state, sex, age, labour force status, income and expenditure, as the person with missing information. As far as possible, the imputed information is an appropriate proxy for the information that is missing. Depending on which values are to be imputed, donors are randomly chosen from the pool of individual records with complete information for the block of questions where the missing information occurs.

**Final sample**

41 The final sample on which estimates were based, is composed of persons for which all necessary information is available. The information may have been wholly provided at the interview (fully-responding) or may have been completed through imputation for partially responding households. Of the selected dwellings, there were 14,545 in the scope of the survey, of which 11,361 (78%) were included as part of the final estimates. The final sample consists of those 11,361 households, comprising 22,315 persons aged 15 years old and over. The final sample includes 2,812 households which had at least one imputed value in either income or assets and liabilities. Nearly 70% of these households had only a single value missing, and most of these were for superannuation assets or a minor source of income for the household.

**SIH FINAL SAMPLE: NUMBER OF HOUSEHOLDS, 2003–04**

| | CAPITAL CITY | | BALANCE OF STATE | | TOTAL | |
| --- | --- | --- | --- | --- | --- | --- |
| | Households | Persons(a) | Households | Persons(a) | Households | Persons(a) |
| | no. | no. | no. | no. | no. | no. |
| NSW | 1537 | 3131 | 1093 | 2117 | 2630 | 5248 |
| Vic. | 1690 | 3474 | 696 | 1338 | 2386 | 4812 |
| Qld | 845 | 1607 | 1151 | 2236 | 1996 | 3843 |
| SA | 890 | 1713 | 367 | 701 | 1257 | 2414 |
| WA | 950 | 1909 | 490 | 929 | 1440 | 2838 |
| Tas. | 423 | 811 | 400 | 739 | 823 | 1550 |
| NT | 335 | 666 | 87 | 161 | 422 | 827 |
| ACT | 407 | 783 | — | — | 407 | 783 |
| Aust. | 7077 | 14094 | 4284 | 8221 | 11361 | 22315 |

— nil or rounded to zero (including null cells)
(a) Numbers of persons aged 15 years and over

**Weighting**

42 Weighting is the process of adjusting results from a sample survey to infer results for the total in scope population whether that be persons or households. To do this, a 'weight' is allocated to each sample unit e.g. a person or a household. The weight is a value which indicates how many population units are represented

by the sample unit. The first step in calculating weights for each unit is to assign an initial weight, which is the inverse of the probability of being selected in the survey. For example, if the probability of a household being selected in the survey was 1 in 600, then the household would have an initial weight of 600 (that is, it represents 600 households).

43 The initial weights are then calibrated to align with independent estimates of the population of interest, referred to as 'benchmarks'. Weights calibrated against population benchmarks ensure that the survey estimates conform to the independently estimated distribution of the population rather than to the distribution within the sample itself.

44 The SIH survey was benchmarked to the in scope estimated resident population (ERP) and the estimated number of households in the population.

45 Three types of benchmarks are used in the calibration of the final weights:

- numbers of persons aged 15 and over
- numbers of children under age 15
- numbers of households.

46 Person benchmarks for persons aged 15 and over are estimates of the number of people in each state and territory by age and sex, the number of people in each state and the ACT by labour force status and the number of people in each state living in the capital city or the balance of the state.

47 A separate set of benchmarks is used for children under 15, since there are not individual person records for them in the survey. Information about children is recorded on household records, however, and benchmarks for the number of children aged 0–4 and aged 5–14 are used for each state and territory.

48 Numbers of households are calibrated to benchmarks for total Australia with respect to household composition (based on the number of adults (1, 2 or 3) and whether or not the household contains children).

49 The person and household benchmarks are based on estimates of numbers of persons and households in Australia. The benchmarks are adjusted to include persons and households residing in private dwellings only and therefore do not, and are not intended to, match estimates of the Australian resident population published in other ABS publications.

**Estimation**

50 Estimates produced from the survey are usually in the form of averages (e.g. average weekly income of couple households with dependent children), or counts (e.g. total number of households that own their dwelling or total number of persons living in households that own their own dwelling). For counts of households, the estimate was obtained by summing the weights for the responding households in the required group (e.g. those owning their own dwelling). For counts of persons, the household weights were multiplied by the number of persons in the household before summing. The SIH collects data on the number of people, including children, in each household but separate records with income and other detailed data were only collected for people 15 years and older. Therefore, counts of persons cannot be obtained by summing the weights of all persons.

51 Average income values are obtained in two different ways, depending on whether mean gross household income or mean equivalised disposable household income is being derived. Estimates of mean gross household income are obtained by multiplying the gross income of each household by the weight of the household, summing across all households and then dividing by the estimated number of households. For example, the mean gross household income of couple households with dependent children is the weighted sum of the gross income of each such household divided by the estimated number of those households. Estimates of mean equivalised disposable household income are obtained by multiplying the equivalised disposable income of each household by the number of people in the household (including children) and by the weight of the household, summing across all households and then dividing by the estimated number of people in the population group. **Appendix 3** illustrates the differences between mean gross household income calculated on a household weighted basis and mean equivalised disposable household income calculated on a person weighted basis.

52 Income tax payments were estimated for all households using taxation criteria for 2003–04 and the income and other characteristics of household members reported in the survey.

**Reliability of estimates**

53 The estimates provided in this publication are subject to two types of error, non-sampling and sampling error.

**Non-sampling error**

54 Non-sampling error can occur in any collection, whether the estimates are derived from a sample or from a complete collection such as a census. Sources of non-sampling error include non-response, errors in reporting by respondents or recording of answers by interviewers and errors in coding and processing the data.

55 Non-sampling errors are difficult to quantify in any collection. However, every effort is made to reduce non-sampling error to a minimum by careful design and testing of the questionnaire, training of interviewers and data entry staff and extensive editing and quality control procedures at all stages of data processing.

56 One of the main sources of non-sampling error is non-response by persons selected in the survey. Non-response occurs when people cannot or will not cooperate or cannot be contacted. Non-response can affect the reliability of results and can introduce a bias. The magnitude of any bias depends upon the level of non-response and the extent of the difference between the characteristics of those people who responded to the survey and those who did not.

57 The following methods were adopted to reduce the level and impact of non-response:

- face-to-face interviews with respondents
- the use of interviewers who could speak languages other than English, where necessary
- follow-up of respondents if there was initially no response
- imputation of missing values
- ensuring that the weighted data is representative of the population (in terms of demographic characteristics) by aligning the estimates with population benchmarks.

**Sampling error**

58 The estimates are based on a sample of possible observations and are subject to sampling variability. The estimates may therefore differ from the figures that would have been produced if information had been collected for all households. A measure of the sampling error for a given estimate is provided by the standard error, which may be expressed as a percentage of the estimate (relative standard error). Further information on sampling error is given in **Appendix 4**.

**ACKNOWLEDGMENT**

59 ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued cooperation is very much appreciated: without it, the wide range of statistics published by the ABS would not be available. Information received by the ABS is treated in strict confidence as required by the **Census and Statistics Act 1905**.

**STANDARD PRODUCTS**

60 This publication provides a summary of the income related data available from the SIH. Additional tables (product number 6523.0.55.001) have been released on the ABS web site concurrently with this publication, including tables of counts relating to publication tables of proportions, as well as more detailed dissections, such as by age of persons in the household, and additional classifications.

**SPECIAL DATA SERVICES**

61 The ABS offers specialist consultancy services to assist clients with more complex statistical information needs. Clients may wish to have the unit record data analysed according to their own needs, or require tailored tables incorporating data items and populations as requested by them. Tables and other analytic outputs can be made available electronically or in printed form. However, as the level of detail or disaggregation increases with detailed requests, the number of contributors to data cells decreases. This

may result in some requested information not being able to be released due to confidentiality or sampling variability constraints. All specialist consultancy services attract a service charge, and clients will be provided with a quote before information is supplied. For further information, contact ABS information consultants on 1300 135 070.


**UNIT RECORD FILE**

62 It is expected that a confidentialised unit record file (CURF) from the 2003–04 SIH will be released on CD-ROM in October 2005. It is also expected that a more detailed SIH CURF will be available through the ABS Remote Access Data Laboratory. A full range of up-to-date information about the availability of ABS CURFs and about applying for access to CURFs is available via the ABS web site <https://www.abs.gov.au> (see Services We Provide, Confidentialised Unit Record Files (CURFs)). Inquiries to the ABS CURF Management Unit should email: curf.management@abs.gov.au, or telephone (02) 6252 5853.


**RELATED PUBLICATIONS**

63 Users may wish to refer to the following ABS products which relate to income:
**Household Income and Income Distribution, Australia, Detailed Tables,** cat. no. 6523.0.55.001
**Government Benefits, Taxes and Household Income, Australia, 1998–99**, cat. no. 6537.0
**Household Expenditure Survey, Australia: Summary of Results, 2003–04**, cat. no. 6530.0, to be released 11 August 2005.
**Household Expenditure Survey, Detailed Expenditure Items, 2003–04**, cat. no. 6535.0.55.001, to be released 11 August 2005.
**Housing Occupancy and Costs, Australia,** cat. no. 4130.0.55.001
**Labour Force, Australia**, cat. no. 6202.0—issued monthly
**Survey of Income and Housing Costs and Amenities: Income Units, Australia, 1990**, cat. no. 6523.0
**Average Weekly Earnings, Australia**, cat. no. 6302.0
**Measuring Wellbeing: Frameworks for Australian Social Statistics, 2001**, cat. no. 4160.0
**Measures of Australia's Progress, 2004**, cat. no.1370.0
**Information Paper: Experimental Estimates of Personal Income for Small Areas, Taxation and Income Support Data, 1995–96 to 2000–01**, cat. no. 6524.0
**Household Wealth and Wealth Distribution, Australia, 2003–04**, a new publication to be released in December 2005.

64 The HES and SIH User Guide is expected to be released in October 2005.

65 Users may also wish to refer to the following non-ABS products which relate to income:
**Taxation Statistics 2002–03**, A summary of taxation, superannuation and industry benchmark statistics (Australian Taxation Office)
**Occasional Paper No. 7: Income support customers: A statistical overview 2001.** (Department of Family and Community Services)
**Household, Income and Labour Dynamics in Australia (HILDA) Survey, Annual Report 2004** (Melbourne Institute of Applied Economic and Social Research)


# Glossary

**Capital cities**

Australia's six State capital city statistical divisions and the Darwin statistical division. For the Australian Capital Territory the estimates relate predominantly to urban areas.

**Collection District**

The census Collection District (CD) is the smallest geographic area defined in the **Australian Standard Geographical Classification** (cat. no. 1216.0).

**Consumer Price Index (CPI)**

A general measure of price inflation for the household sector in Australia. Specifically, it provides a measure

of changes, over time, in the cost of a constant basket of goods and services acquired by the capital city households in Australia.

**Couple family with dependent children**

One family household consisting of a couple with at least one dependent child. The household may also include non-dependent children, other relatives and unrelated individuals.

**Couple**

Two people in a registered or de facto marriage, who usually live in the same household.

**Decile**

Groupings that result from ranking all households or people in the population in ascending order according to some characteristic such as their household income and then dividing the population into 10 equal groups, each comprising 10% of the estimated population.

**Dependent children**

All persons aged under 15 years; and people aged 15–24 years who are full-time students, have a parent in the household and do not have a partner or child of their own in the household.

**Disposable income**

Gross income after income tax and the Medicare levy are deducted and family tax benefit paid through the tax system or as a lump sum by Centrelink is added. Income tax and the Medicare levy are imputed based on each person's income and other characteristics as reported in the survey. Family tax benefit is estimated on the basis of reductions in pay-as-you-go tax payments, as reported in the survey, or imputed on the basis of each family's income and composition. Disposable income is sometimes referred to as net income.

**Employed persons**

Persons aged 15 years and over who, during the week before the interview:

- worked one hour or more for pay, profit, commission or payment in kind in a job or business, or on a farm (includes employees, employers and own account workers)
- worked one hour or more, without pay, in a family business or on a family farm
- had a job, business or farm but was not at work because of holidays, sickness or other reason.

**Employee**

An employed person who, for most of his/her working hours:

- works for a public or private employer and receives remuneration in wages or salary, or is paid a retainer fee by his/her employer and works on a commission basis, or works for an employer for tips, piece-rates or payment in kind
- operates his or her own incorporated enterprise with or without hiring employees.

**Employer**

A person who operates his or her own unincorporated economic enterprise or engages independently in a profession or trade, and hires one or more employees.

**Equivalised disposable household income**

Disposable household income adjusted using an equivalence scale. For a lone person household it is equal to disposable household income. For a household comprising more than one person, it is an indicator of the disposable household income that would need to be received by a lone person household to enjoy the same level of economic wellbeing as the household in question. For further information see **Appendix 3**.

**Family**

Two or more people, one of whom is at least 15 years of age, who are related by blood, marriage (registered or de facto), adoption, step or fostering and who usually live in the same household. A separate family is formed for each married couple, or for each set of parent-child relationships where only one parent is present.

**Family composition of household**

Classifies households into three broad groupings based on the number of families present (one family, multiple family and non-family). One family households are further disaggregated according to the type of family (such as couple family or one parent family) and according to whether or not dependent children are present. Non-family households are disaggregated into lone person households and group households.

**Full-time student**

A person 15 years or over who is classified as a full-time student by the institution they attend, or considers himself/herself to be a full-time student. Full-time study does not preclude employment.

**Gini coefficient**

A summary measure of inequality of income distribution. For further information see **Appendix 1**.

**Government pensions and allowances**

Income support payments from government to persons under social security and related government programs. Included are pensions and allowances received by aged, disabled, unemployed and sick persons, families and children, veterans or their survivors, and study allowances for students. Sometimes referred to as government benefit transfers. All overseas pensions and benefits are included here, although some may not be paid by overseas governments. The one-off payment to seniors paid in 2000–01 and the one-off payments to families and carers paid in 2003–04 are included. Family tax benefit is also regarded as income, although for practical reasons family tax benefit paid through the tax system or as a lump sum by Centrelink is only included under disposable income, and not gross income.

**Gross income**

Regular cash receipts before income tax or the Medicare levy are deducted.

**Group household**

A household consisting of two or more unrelated people where all people are aged 15 years and over. There are no reported couple relationships, parent-child relationships or other blood relationships in these households.

**Household**

A group of related or unrelated people who usually live in the same dwelling and make common provision for food and other essentials of living; or a lone person who makes provision for his or her own food and other essentials of living without combining with any other person.

**Income**

Regular and recurring cash receipts including moneys received from wages and salaries, government pensions and allowances, and other regular receipts such as superannuation, workers' compensation, child support, other transfers from other households, scholarships, profit or loss from own unincorporated business or partnership and investment income. Gross income is the sum of the income from all these sources before income tax or the Medicare levy are deducted. Other measures of income are disposable income and equivalised disposable income. Note that child support and other transfers from other households are not deducted from the incomes of the households making the transfers.

**Income unit**

One person or a group of related persons within a household, whose command over income is assumed to be shared. Income sharing is assumed to take place within married (registered or de facto) couples, and between parents and dependent children. The income unit was the unit of analysis used in the 1994–95 to 1999–2000 issues of this publication, but more recent issues use the person as the unit of analysis with

persons mostly described according to the characteristics of the household to which they belong.

**Labour force status**

Classifies all people aged 15 years and over according to whether they were employed, unemployed or not in the labour force.

**Landlord type**

For renters, the type of entity to whom rent is paid or with whom the tenure contract or arrangement is made. Renters belong to one of the following categories:

- state/territory housing authority–where the household pays rent to a state or territory housing authority or trust
- private landlords–where the household pays rent to a real estate agent or to another person not in the same household
- other–where the household pays rent to the owner/manager of a caravan park, an employer (including a government authority), a housing cooperative, a community or church group, or any other body not included elsewhere.

**Lone person household**

A household consisting of a person living alone.

**Mean income**

The total income received by a group of units divided by the number of units in the group. For more detail about household weighted and person weighted means, see **Appendix 1**.

**Median income**

That level of income which divides the units in a group into two equal parts, one half having incomes above the median and the other half having incomes below the median. For more detail about household weighted and person weighted medians, see **Appendix 1**.

**Multiple family household**

A household containing two or more families. Unrelated individuals may also be present.

**Negative income**

Income may be negative when a loss accrues to a household as an owner or partner in unincorporated enterprises or rental properties. Losses occur when operating expenses and depreciation are greater than gross receipts.

**Net worth**

Net worth is the value of a household's assets less the value of its liabilities. For further information refer to paragraphs 26 to 29 in **Explanatory Notes**.

**Non-dependent children**

All people aged 15 years and over who:

- do not have a spouse or offspring of their own in the household
- have a parent in the household
- are not full-time students aged 15–24 years.

**Non-family household**

Consists of unrelated people only. A non-family household can be either a person living alone or a group household.

**Not in the labour force**

Persons not in the categories employed or unemployed as defined.

**One family household**

A household containing only one family. Unrelated individuals may also be present.

**One parent family with dependent children**

A one family household comprising a lone parent with at least one dependent child. The household may also include non-dependent children, other relatives and unrelated individuals.

**Other one family household**

A household comprising:

- one couple with their non-dependent children only
- one couple, with or without non-dependent children, plus other relatives
- one couple, with or without non-dependent children or other relatives, plus unrelated individuals
- a lone parent with his/her non-dependent children, with or without other relatives and unrelated individuals or
- two or more related individuals where the relationship is not a couple relationship or a parent-child relationship (e.g. two brothers).

**Other income**

Income other than wages and salaries, own business or partnership income and government pensions and allowances. This includes income received as a result of ownership of financial assets (interest, dividends), and of non-financial assets (rent, royalties) and other regular receipts from sources such as superannuation, child support, workers' compensation and scholarships. Income from rent is net of operating expenses and depreciation and may be negative when these are greater than gross receipts.

**Other landlord type**

Where the household pays rent to the owner/manager of a caravan park, an employer (including a government authority), a housing cooperative, a community or church group, or any other body not included elsewhere.

**Other tenure type**

A household which is not an owner, a purchaser or a renter.

**Own account worker**

A person who operates his or her own unincorporated economic enterprise or engages independently in a profession or trade and hires no employees.

**Own unincorporated business income**

The profit/loss that accrues to persons as owners of, or partners in, unincorporated enterprises. Profit/loss consists of the value of gross output of the enterprise after the deduction of operating expenses (including depreciation). Losses occur when operating expenses are greater than gross receipts and are treated as negative income.

**Owner (of dwelling)**

A household in which at least one member owns the dwelling in which it usually resides. Owners are divided into two classifications - owners without a mortgage and owners with a mortgage. If there is any outstanding mortgage or loan secured against the dwelling the household is an owner with a mortgage. If there is no mortgage or loan secured against the dwelling the household is an owner without a mortgage.

**Percentile**

When all households or people in the population are ranked from the lowest to the highest on the basis of some characteristic such as their household income, they can then be divided into equal sized groups. Division into 100 groups gives percentiles. The highest value of the characteristic in the tenth percentile is denoted P10. The median or the top of the 50th percentile is denoted P50. P20, P80 and P90 denote the highest values in the 20th, 80th and 90th percentiles. Ratios of values at the top of selected percentiles, such as P90/P10, are often called percentile ratios.

**Principal source of income**

That source from which the most positive income is received. If total income is nil or negative the principal source is undefined.

**Private income**

Regular, recurring receipts from private organisations, including superannuation, regular workers' compensation, income from annuities, interest, dividends, royalties, income from rental properties, scholarships and child support.

**Quintiles**

Groupings that result from ranking all households or people in the population in ascending order according to some characteristic such as their household income and then dividing the population into five equal groups, each comprising 20% of the estimated population.

**Ratio of household incomes at top of selected income percentiles**

See percentile.

**Reference person**

The reference person for each household is chosen by applying, to all household members aged 15 years and over, the selection criteria below, in the order listed, until a single appropriate reference person is identified:

- one of the partners in a registered or de facto marriage, with dependent children
- one of the partners in a registered or de facto marriage, without dependent children
- a lone parent with dependent children
- the person with the highest income
- the eldest person.

For example, in a household containing a lone parent with a non-dependent child, the one with the higher income will become the reference person. However, if both individuals have the same income, the elder will become the reference person.

**Relative standard error (RSE)**

The standard error expressed as a percentage of the estimate for which it was calculated. It is a measure which is independent of both the size of the sample, and the unit of measurement and as a result, can be used to compare the reliability of different estimates. The smaller an estimate's RSE, the more likely it is that the estimate is a good proxy for that which would have been obtained if the whole population had been surveyed.

**Renter**

A household which pays rent to reside in the dwelling. See further classification by Landlord type.

**Selected dwelling**

The private dwelling selected in the sample for the survey. See the **Explanatory Notes** for details of types of dwellings and how they are selected for this survey.

**Significant person**

Significant persons are defined as follows:

- all members of a lone person or couple only household
- all parents in a couple with children household or a single parent household
- the persons aged 15 years or over in an unrelated persons household where one person is aged 15 years or over and the other members of the household are less than 15 years old
- 50% of the persons aged 15 years and over in all other households.

**Standard error**

A measure of the likely difference between estimates obtained in a sample survey and estimates which would have been obtained if the whole population had been surveyed. The magnitude of the standard error associated with any survey is a function of sample design, sample size and population variability.

**Statistical division**

The largest spatial units of the main structure of the **Australian Standard Geographical Classification** (cat. no. 1216.0).

**Tenure type**

The nature of a household's legal right to occupy the dwelling in which the household members usually reside. Tenure is determined according to whether the household owns the dwelling outright, owns the dwelling but has a mortgage or loan secured against it, is paying rent to live in the dwelling or has some other arrangement to occupy the dwelling.

**Unemployed persons**

Persons aged 15 years and over who were not employed during the week before the interview and

- had actively looked for full-time or part-time work at any time in the four weeks before the interview and:
- were available for work in the week before the interview, or would have been available except for temporary illness (i.e. lasting for less than four weeks before the interview), or
- were waiting to start a new job within four weeks from the interview and would have started in the week before the interview if the job had been available then,

or

- were waiting to be called back to a full-time or part-time job from which they had been stood down without pay for less than four weeks before the interview for reasons other than bad weather or plant breakdown.

**Unincorporated business**

A business in which the owner(s) and the business are the same legal entity, so that, for example, the owner(s) are personally liable for any business debts that are incurred.

**Wages and salaries**

The gross cash income received as a return to labour from an employer or from a person's own incorporated business.

**Wealth**

See Net worth.

# Abbreviations

The following abbreviations have been used in this publication

| | |
|---|---|
| ABS | Australian Bureau of Statistics |
| ACT | Australian Capital Territory |
| ASNA | Australian System of National Accounts |
| Aust. | Australia |
| CD | Collection District |
| CPI | Consumer Price Index |
| CURF | Confidentialised Unit Record File |
| ERP | Estimated Resident Population |
| GST | Goods and Services Tax |
| HECS | Higher Education Contribution Scheme |
| HES | Household Expenditure Survey |
| NSW | New South Wales |
| NT | Northern Territory |
| OECD | Organisation for Economic Co-operation and Development |
| PSI | Principal source of income |
| Qld | Queensland |
| RSE | Relative Standard Error |
| SA | South Australia |
| SE | Standard Error |
| SIH | Survey of Income and Housing |
| Tas. | Tasmania |
| Vic. | Victoria |
| WA | Western Australia |

# Analysing Income Distribution (Appendix)

## APPENDIX 1 ANALYSING INCOME DISTRIBUTION

### INTRODUCTION

There are many ways to illustrate aspects of the distribution of income and to measure the extent of income inequality. In this publication, five main types of indicator are used - means and medians, frequency distributions, percentile ratios, income shares, and Gini coefficients. This Appendix describes how these indicators are derived.

### MEAN AND MEDIAN

Mean household income (average household income) and median household income (the midpoint when all persons or households are ranked in ascending order of household income) are simple indicators that can be used to show income differences between subgroups of the population. Many tables in this publication include mean household income and median household income data.

In most cases, the income measure used is equivalised disposable household income. As described in **Appendix 3**, equivalised disposable household income can be viewed as an indicator of the economic resources available to each member of a household. In this publication, therefore, the mean and median values of equivalised disposable household income are always calculated with respect to the relevant number of persons, even where the table is describing households. Measures calculated in this way are sometimes known as person weighted measures. The method of calculation is described under 'Estimation' in the **Explanatory Notes.**

In some tables describing households, the mean and median of gross household income are also shown. These measures are calculated with respect to the relevant number of households, not persons. They are sometimes known as household weighted measures.

### FREQUENCY DISTRIBUTION

A frequency distribution illustrates the location and spread of income within a population. It groups the population into classes by size of household income and gives the number or proportion of people in each income range. A graph of the frequency distribution is a good way to portray the essence of the income distribution. The second graph in the **Summary of Findings** shows the proportion of people within $50 household income ranges.

Frequency distributions can provide considerable detail about variations in the income of the population being described, but it is difficult to describe the differences between two frequency distributions. They are therefore often accompanied by other summary statistics, such as the mean and median. Taken together, the mean and median can provide an indication of the shape of the frequency distribution. As can be seen in the second graph in the **Summary of Findings**, the distribution of income tends to be asymmetrical, with a small number of people having relatively high household incomes and a larger number of people having relatively lower household incomes. The greater the asymmetry, the greater will be the difference between the mean and the median.

## QUANTILE MEASURES

When persons (or any other units) are ranked from the lowest to the highest on the basis of some characteristic such as their household income, they can then be divided into equally sized groups. The generic term for such groups is quantiles.

### Quintiles, deciles and percentiles

When the population is divided into five equally sized groups, the quantiles are called quintiles. If there are 10 groups, they are deciles, and division into 100 groups gives percentiles. Thus the first quintile will comprise the first two deciles and the first 20 percentiles.

This publication frequently presents data classified into income quintiles, supplemented by data relating to the 2nd and 3rd deciles combined. The latter is included to enable quintile style analysis to be carried out without undue impact from very low incomes which may not accurately reflect levels of economic wellbeing (see paragraphs 20 and 21 in the **Explanatory Notes**).

Equivalised disposable household income is the income measure used to define the quantiles shown in this publication, and the quantiles each comprise the same number of persons, that is, they are person weighted.

### Upper values and medians

In some analyses, the statistic of interest is the boundary between quantiles. This is usually expressed in terms of the upper value of a particular percentile. For example, the upper value of the first quintile is also the upper value of the 20th percentile and is described as P20. The upper value of the ninth decile is P90. The median of a whole population is P50, the median of the 3rd quintile is also P50, the median of the first quintile is P10, etc.

### Percentile ratios

Percentile ratios summarise the relative distance between two points on the income distribution. To illustrate the full spread of the income distribution, the percentile ratio needs to refer to points near the extremes of the distribution, for example, the P90/P10 ratio. The P80/P20 ratio better illustrates the magnitude of the range within which the incomes of the majority of the population fall. The P80/P50 and P50/P20 ratios focus on comparing the ends of the income distribution with the midpoint.

### Income share

Income shares can be calculated and compared for each income quintile (or any other subgrouping) of a population. The aggregate income of the units in each quintile is divided by the overall aggregate income of the entire population to derive income shares.

## GINI COEFFICIENT

The Gini coefficient is a single statistic which summarises the distribution of income across the population. Some other single statistic summaries of inequality are discussed in Appendix 1 of the 2002–03 issue of this publication.

The Gini coefficient can best be described by reference to the Lorenz curve. The Lorenz curve is a graph with horizontal axis showing the cumulative proportion of the persons in the population ranked according to household income and with the vertical axis showing the corresponding cumulative proportion of equivalised disposable household income. The graph then shows the income share of any selected cumulative proportion of the population, as can be seen below.
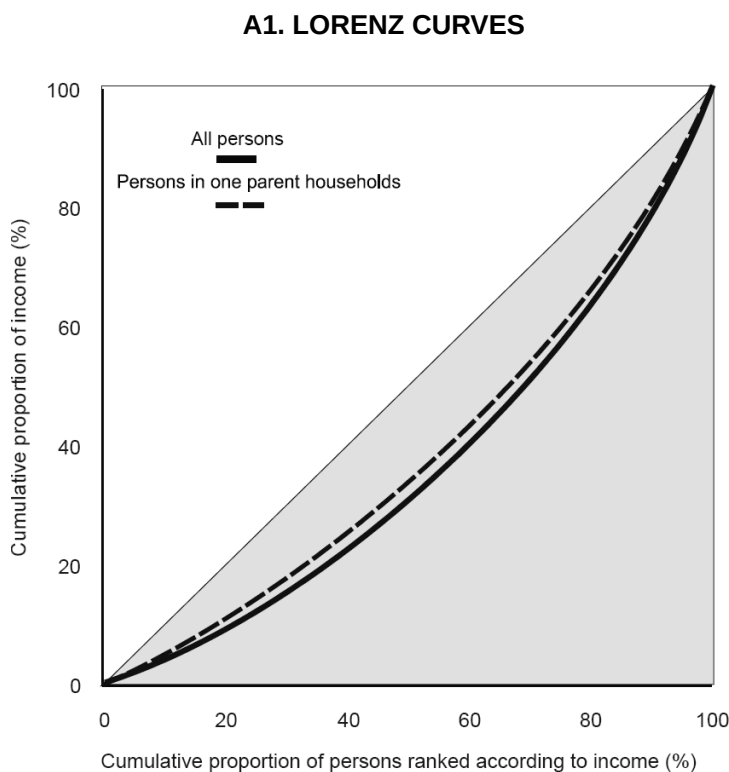
### A1. LORENZ CURVES



If income were distributed evenly across the whole population, the Lorenz curve would be the diagonal line through the origin of the graph. The Gini coefficient is defined as the ratio of the area between the actual Lorenz curve and the diagonal (or line of equality) and the total area under the diagonal. The Gini coefficient ranges between zero when all incomes are equal and one when one unit receives all the income, that is, the smaller the Gini coefficient the more even the distribution of income.

Normally the degree of inequality is greater for the whole population than for a subgroup within the population because subpopulations are usually more homogeneous than full populations. This is illustrated in the graph above, which shows two Lorenz curves from the 2003–04 Survey of Income and Housing. The Lorenz curve for the whole population of the survey is further from the diagonal than the curve for persons living in one parent, one family households, with at least one dependent child. Correspondingly, the calculated Gini coefficient for all persons was 0.294 while the coefficient for the persons in the one parent households included here was 0.247.

# Current and Annual Income (Appendix)

## APPENDIX 2 CURRENT AND ANNUAL INCOME

### INTRODUCTION

The SIH produces estimates of 'current' income and estimates of full year, or annual, income with respect to the 'previous financial year'. The tables in the main body of this publication refer to 'current' income, that is, estimates of income being received at the time the data were collected from respondents. Current income provides the most up to date information available and in some cases the most accurate information

available. But it also has some disadvantages. This Appendix discusses the differences in 'current' and 'annual' income measures and presents alternative estimates relating to 'previous financial year' income.

Table A3 in this appendix compares current gross income with previous financial year gross income for common reference years. For example, the previous financial year income for reference year 1995–96 is compiled from data collected in the 1996–97 SIH, whereas the current income for reference year 1995–96 is compiled from data collected in the 1995–96 SIH.

## WAGE AND SALARY INCOME

For wage and salary income, table A3 in this appendix shows that, for each reference year, aggregate income collected on a previous financial year basis was greater than aggregate income collected on a current basis.

Current wage and salary income relates to usual income from the last payment received by the respondent. The reference period for any individual respondent is likely to be the previous week, fortnight or month, depending on the length of the pay period for the job(s) in which the respondent is employed. The length of the reference period is collected in the survey so that the value can be scaled to a common basis such as dollars per week (as presented in tables in the main body of this publication) or dollars per year (as presented in table A3 in this appendix).

If current wage or salary income contains a payment for irregular overtime worked in the previous pay period, or a pay bonus that occurs infrequently during the year, the irregular components are excluded. If such payments were included in a weekly or fortnightly pay period estimate, the recipient could appear to be receiving substantially more income annually than is likely to be the case and analysis of the respondent's economic wellbeing would be distorted accordingly.

Excluding the extra payments from current income, on practical grounds of measurement, ignores income that does make a contribution to the economic wellbeing of the recipient. To be able to accommodate the extra payments in a current income measure would require substantial additional information about the pay period with the extra payments in it and their likely recurrence in future, as well for pay periods which have more usual or regular levels of payment so that a reasonable estimate might be made of 'current' income including an appropriate share of expected irregular payments. This is very difficult to achieve in a household interview and reporting error could be significant. By taking wage and salary income for the full preceding financial year and retaining irregular components received during the course of the year, wage and salary data in SIH are collected on the broader basis.

## GOVERNMENT PENSIONS AND ALLOWANCES

Current government pensions and allowances also relate to income from the last payment received. Benefits are normally received fortnightly. As with wages and salaries, there are some benefit components, such as quarterly telephone allowance, that are not likely to be included in estimates of current income. They are not as significant a part of total government pensions and allowances as are the irregular components of wage and salary income. Therefore estimates of current government pensions and allowances could be expected to align more closely with previous financial year estimates.

In practice, estimates of government pensions and allowances reported on a previous financial year basis were lower than estimates of government pensions and allowances reported as current income, as can be seen in table A3 in this appendix. The major cause of the difference appears to be higher underreporting of income received some time earlier compared to underreporting of income being received currently.

In cases where it appears likely that an individual SIH respondent has failed to report previous financial year benefits, previous year benefit income is imputed. For example, where a respondent has reported receiving a current benefit such as age pension, is of an age that would qualify for the age pension in the previous year, and that person has not reported receiving significant income from other sources in the previous financial year, it can be assumed that they probably would have also received the age pension in the previous financial year. In such cases, previous financial year age pension has been imputed on the basis of the amount reported as current income, adjusting for benefit rate changes over the previous 12 months.

However, imputation for previous year benefit income, based on likely ongoing entitlement, is not possible for benefits such as Newstart or youth allowance, and table A3 in this appendix indicates that, in aggregate, previous financial year income falls short of current income after the implementation of the imputation

procedure described in the previous paragraph.

## OWN UNINCORPORATED BUSINESS INCOME

Estimates of current income from own unincorporated business are quite different in nature to the estimates of current income for the two income sources discussed above.

The concept of business income is a net concept. It is the profit or loss derived by deducting operating expenses (including depreciation) from the value of gross output. In the past, many unincorporated businesses did not calculate profit and loss data more than once a year, and for many businesses there are revenues earned or costs incurred only infrequently during the year. Hence, in earlier surveys, SIH respondents were not asked to provide a value of current business income distinct from the value of business income received in the previous financial year.

Up until the 2003–03 SIH cycle 4, respondents who had been in business in the previous financial year and who were currently still in business, their current own unincorporated business income was estimated to be the same amount as the previous year income (including if it was a loss), or scaled up to a full year basis if the business only operated for part of the previous year. It was implicitly assumed that any business only commencing operations in the current year would have zero income.

In the 2003–04 SIH respondents who currently operated an unincorporated business were asked to estimate their income from the business for the full current financial year. In many cases, respondents could refer to the Business Activity Statements prepared for the Australian Taxation Office to help them provide an estimate. Even where this was not possible, especially for those respondents interviewed early in the financial year, the respondents are likely to be able to provide a more reasonable estimate than that generated by the methodology used in previous cycles. Under the previous methodology, estimates could also have a strong downwards bias, particularly for new businesses, but could also be significantly upwardly biased if the current business circumstances had turned down from the previous year. There is also some likelihood that respondent estimates under the new methodology may be either optimistic or pessimistic and the estimates may have some bias. The new methodology has particularly resulted in far fewer households being recorded with current business incomes that are negative, zero or only slightly positive.

## INVESTMENT INCOME

Investment income includes interest and dividend income received as a result of the ownership of financial assets, and rent and royalty income received from the ownership of non-financial assets. The rent component of investment income is measured on a net basis, that is, gross rent less operating expenses. The other components, for which associated expenses are normally relatively small, are on a gross basis. In earlier surveys, estimates of current income for dividends from own incorporated business were estimated in the same way as described above for income from own unincorporated business. For other forms of investment, current income was derived by simply assuming that current income was equal to previous financial year income.

As for own unincorporated business income, respondents in the 2003–04 SIH were asked to provide an estimate of their expected investment income in the current financial year.

## OTHER INCOME

The remaining income sources include superannuation, child support, workers' compensation and scholarships. These are collected both on a current basis and on a previous financial year basis.

## COMPARISON OF ESTIMATES

There are two major advantages of the current income estimates compared to previous financial year income estimates. First, they are more up to date. For 2003–04, this applies to all forms of income. For previous surveys, this applies for wage and salaries, for government pensions and allowances and for 'other' income (as defined in the preceding paragraph), which together accounted for 86% of total current income in 2002–03. Second, they appear to be more accurately reported for government pensions and allowances, and may also be more accurately reported for those elements of wages and salaries that are included in current income and for 'other' income.

On the other hand, the previous financial year estimates have the major conceptual advantage of being annual estimates with more complete coverage of income components. They have a longer time perspective, which while allowing short-term fluctuations in income to have an influence, do not allow short-term situations to potentially dominate the measure being compiled. If a short-term fluctuation has an undue influence on a current income measure, the measure is not a good indicator of underlying economic wellbeing. Short-term fluctuations may be positive or negative, for example, salary bonuses compared to low income or even nil income during short periods of unemployment.

The previous financial year income estimates also have the attraction of being internally consistent with respect to the time periods to which the underlying income data relate. Prior to 2003–04, the total current income estimates are compiled from a mix of data collected on a current basis and on a previous financial year basis. This short-coming was addressed in the 2003–04 current income estimates, with the 2003–04 current income estimates for business and investment income being the respondents' estimates of income for the full current financial year.

When analysing previous financial year data, it should be noted that the composition of the household, employment status of members of the household, etc., all relate to the current period. If the composition of the household has changed, previous financial year household income estimates in effect relate to a quasi household. In many cases this will not have a marked effect on the data. If, for example, an additional adult joined the household, their previous financial year income will be included in total 'household' income for the previous financial year, but their presence will be reflected in the household composition data that are used for calculating the equivalising factor for that previous year, muting the impact of the artificially inflated previous year income for the household.

However, the issues in analysis due to household composition changing between the previous and current years can be more marked. For example, a household may have had an additional member in the previous year and that person may have provided the bulk of the income for the household. But since SIH can only include the previous financial year income of the household members remaining at the time of interview, the household may incorrectly appear to have had very low income in the previous year, perhaps well below the levels which would have entitled members to social security benefits. Similarly, prior to the 2003–04 SIH, previous financial year data were not collected for respondents who had only arrived in Australia in the current financial year. Therefore any previous financial year income they received while overseas did not contribute to the previous financial year income compiled for the household for 2000–01 and earlier years. But their presence is reflected in the equivalising factor applied to the income of the rest of the household, resulting in an underestimate of equivalised income of the household. While it is possible to omit such households from income distribution calculations, that has not been done for the tables included in this appendix.

Table A4 in this appendix provides income distribution indicators compiled from previous financial year data. It provides alternative estimates to the current income estimates provided in table 1 in the main body of this publication. Comparisons can be made between the two tables for the reference periods 1994–95 to 2002–2003, and a summary is given in the following table.

### A2. SELECTED INCOME DISTRIBUTION INDICATORS, Equivalised disposable household income

| | | CURRENT INCOME BASIS | | | PREVIOUS FINANCIAL YEAR BASIS | | | |
|---|---|---|---|---|---|---|---|---|
| | | 1994–95 | 2002–03 | % change | 1994–95 | 2002–03 | % change | Difference in % change |
| Mean income per week, in 2003–04 dollars | | | | | | | | |
| Low income(a) | $ | 246 | 276 | 12.1 | 249 | 281 | 12.9 | 0.8 |
| High income(b) | $ | 861 | 999 | 16.0 | 876 | 1046 | 19.4 | 3.4 |
| Income shares | | | | | | | | |
| Low income(a) | % | 10.8 | 10.6 | -2.2 | 10.7 | 10.4 | -3.3 | -1.1 |
| High income(b) | % | 37.8 | 38.3 | 1.2 | 37.7 | 38.6 | 2.5 | 1.3 |
| Percentile ratios | | | | | | | | |
| P90/P10 | ratio | 3.77 | 4.00 | 5.9 | 3.89 | 4.10 | 5.2 | -0.6 |
| P80/P20 | ratio | 2.56 | 2.63 | 3.1 | 2.63 | 2.67 | 1.7 | -1.4 |
| Gini coefficient | no. | 0.302 | 0.309 | 2.3 | 0.302 | 0.315 | 4.1 | 1.8 |

(a) Persons in the 2nd and 3rd income deciles after being ranked by their equivalised disposable household income
(b) Persons in the top income quintile (9th and 10th deciles) after being ranked by their equivalised disposable household income

The previous financial year estimates show stronger growth in real incomes between 1994–95 and 2002–03 for both the high income and the low income group, with greater additional growth in the high income group. The previous financial year estimates show a greater decline in the income share of the low income group and a greater increase in the income share of the high income group, and also show greater growth in the Gini coefficient. For these indicators, the previous financial year estimates show a greater increase in income inequality than the current income estimates. However, the previous financial year estimates give a smaller increase in the P90/P10 and P80/P20 ratios, indicating a smaller increase in income inequality than shown by the current income estimates.

## A3. CURRENT AND PREVIOUS FINANCIAL YEAR GROSS INCOME(a)

| | 1993–94 | 1994–95 | 1995–96 | 1996–97 | 1997–98 1998–99 | 1999–2000 | 2000–01 | 2001–02 | 2002–03 | 2003–04 |
|---|---|---|---|---|---|---|---|---|---|---|
| | $ billion | $ billion | $ billion | $ billion | $ billion $ billion | $ billion | $ billion | $ billion | $ billion | $ billion |
| **Wages and Salaries** | | | | | | | | | | |
| Current income | na | 194.7 | 199.3 | 211.6 | 223.6 na | 251.1 | 268.3 | na | 308.4 | 327.4 |
| Previous financial year income(b) | 194.7 | 204.4 | 219.1 | 232.2 | na 257.7 | 277.0 | na | 311.2 | 327.1 | na |
| **Government pensions and allowances** | | | | | | | | | | |
| Current income | na | 34.3 | 36.5 | 38.6 | 39.0 na | 41.2 | 46.5 | na | 49.6 | 56.3 |
| Previous financial year income(b) | 30.7 | 32.8 | 34.9 | 36.2 | na 37.7 | 40.5 | na | 44.6 | 48.3 | na |
| **Own unincorporated business income** | | | | | | | | | | |
| Current income | na | 18.8 | 23.2 | 21.4 | 23.6 na | 28.7 | 27.7 | na | 33.2 | 31.2 |
| Previous financial year income(b) | 18.5 | 22.8 | 22.5 | 24.4 | na 27.5 | 25.9 | na | 31.3 | 28.0 | na |
| **Investment income** | | | | | | | | | | |
| Current income | na | 10.7 | 10.9 | 14.4 | 13.2 na | 17.3 | 16.3 | na | 16.2 | 22.5 |
| Previous financial year income(b) | 10.9 | 11.0 | 14.3 | 13.0 | na 17.3 | 15.7 | na | 16.6 | 19.8 | na |
| **Other income** | | | | | | | | | | |
| Current income | na | 7.2 | 7.9 | 8.2 | 9.9 na | 10.5 | 11.7 | na | 15.1 | 17.7 |
| Previous financial year income(b) | 6.6 | 7.0 | 7.5 | 8.4 | na 8.5 | 9.7 | na | 13.1 | 16.5 | na |
| **Total income** | | | | | | | | | | |
| Current income | na | 265.8 | 277.8 | 294.3 | 309.3 na | 348.9 | 370.5 | na | 422.5 | 455.1 |
| Previous financial year income(b) | 261.4 | 278.0 | 298.4 | 314.2 | na 348.7 | 368.8 | na | 416.9 | 439.8 | na |

na not available
(a) Historic data in the table are not adjusted for changes in the CPI
(b) Complied from data collected in the SIH of the year following the reference year. There was no SIH conducted in 1998–99 or 2001–02

## A4. INCOME DISTRIBUTION INDICATORS, Previous financial year income(a)

| Person weighted indicator | | 1993–94 | 1994–95 | 1995–96 | 1996–97 | 1998–99 | 1999–2000 | 2001–02 | 2002–03 |
|---|---|---|---|---|---|---|---|---|---|
| **Mean income per week(b)** | | | | | | | | | |
| Lowest quintile | $ | 172 | 181 | 186 | 188 | 190 | 194 | 193 | 199 |
| Second quintile | $ | 297 | 300 | 304 | 302 | 321 | 325 | 339 | 343 |
| Third quintile | $ | 416 | 413 | 419 | 423 | 452 | 455 | 472 | 482 |
| Fourth quintile | $ | 554 | 555 | 559 | 571 | 607 | 609 | 634 | 639 |
| Highest quintile | $ | 867 | 876 | 891 | 915 | 975 | 996 | 1012 | 1046 |
| All persons | $ | 461 | 465 | 472 | 480 | 509 | 516 | 530 | 542 |
| Second and third deciles | $ | 246 | 249 | 254 | 252 | 265 | 270 | 276 | 281 |
| **Income per week at top of selected percentiles(b)** | | | | | | | | | |
| 10th (P10) | $ | 198 | 203 | 207 | 208 | 215 | 218 | 220 | 225 |
| 20th (P20) | $ | 242 | 248 | 255 | 252 | 262 | 269 | 273 | 279 |
| 30th (P30) | $ | 297 | 299 | 303 | 301 | 321 | 323 | 337 | 341 |
| 40th (P40) | $ | 354 | 353 | 358 | 357 | 383 | 385 | 406 | 413 |
| 50th (P50) | $ | 416 | 412 | 418 | 423 | 452 | 455 | 470 | 481 |
| 60th (P60) | $ | 477 | 479 | 480 | 490 | 526 | 527 | 545 | 552 |
| 70th (P70) | $ | 545 | 551 | 557 | 568 | 603 | 605 | 631 | 635 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 80th (P80) | $ | 649 | 650 | 647 | 661 | 704 | 712 | 737 | 747 |
| 90th (P90) | $ | 795 | 790 | 791 | 810 | 859 | 886 | 897 | 920 |
| Income share | | | | | | | | | |
|    Lowest quintile | % | 7.5 | 7.8 | 7.9 | 7.8 | 7.5 | 7.5 | 7.3 | 7.4 |
|    Second quintile | % | 12.9 | 12.9 | 12.9 | 12.6 | 12.6 | 12.6 | 12.8 | 12.7 |
|    Third quintile | % | 18.0 | 17.8 | 17.7 | 17.6 | 17.8 | 17.6 | 17.8 | 17.8 |
|    Fourth quintile | % | 24.0 | 23.9 | 23.7 | 23.8 | 23.8 | 23.6 | 23.9 | 23.6 |
|    Highest quintile | % | 37.6 | 37.7 | 37.8 | 38.2 | 38.3 | 38.6 | 38.2 | 38.6 |
|    All persons | % | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
|    Second and third deciles | % | 10.6 | 10.7 | 10.8 | 10.5 | 10.4 | 10.5 | 10.4 | 10.4 |
| Ratio of incomes at top of selected income percentiles | | | | | | | | | |
|    P90/P10 | ratio | 4.00 | 3.89 | 3.82 | 3.89 | 4.00 | 4.06 | 4.08 | 4.10 |
|    P80/P20 | ratio | 2.68 | 2.63 | 2.54 | 2.63 | 2.68 | 2.64 | 2.70 | 2.67 |
|    P80/P50 | ratio | 1.56 | 1.58 | 1.55 | 1.56 | 1.56 | 1.56 | 1.57 | 1.55 |
|    P20/P50 | ratio | 0.58 | 0.60 | 0.61 | 0.60 | 0.58 | 0.59 | 0.58 | 0.58 |
| Gini coefficient | no. | 0.304 | 0.302 | 0.303 | 0.308 | 0.312 | 0.313 | 0.312 | 0.315 |

(a) Compiled from data collected in the SIH of the year following the reference years. Income is equivalised disposable household income
(b) In 2003–04 dollars, adjusted using changes in the Consumer Price Index

# Equivalised Disposable Household Income (Appendix)

## APPENDIX 3 EQUIVALISED DISPOSABLE HOUSEHOLD INCOME

### EQUIVALENCE SCALES

Equivalence scales have been devised to make adjustments to the actual incomes of households in a way that enables analysis of the relative wellbeing of households of different size and composition. For example, it would be expected that a household comprising two people would normally need more income than a lone person household if the two households are to enjoy the same standard of living.

One way of adjusting for this difference in household size might be simply to divide the income of the household by the number of people within the household so that all income is presented on a per capita basis. However, such a simple adjustment assumes that all individuals have the same resource needs if they are to enjoy the same standard of living and that there are no economies derived from living together.

Various calibrations, or scales, have been devised to make adjustments to the actual incomes of households in a way that recognises differences in the needs of individuals within those households and the economies that flow from sharing resources. The scales differ in their detail and complexity but commonly recognise that the extra level of resources required by larger groups of people living together is not directly proportional to the number of people in the group. They also typically recognise that children have fewer needs than adults.

When household income is adjusted according to an equivalence scale, the equivalised income can be viewed as an indicator of the economic resources available to a standardised household. For a lone person household it is equal to household income. For a household comprising more than one person, it is an indicator of the household income that would need to be received by a lone person household to enjoy the same level of economic wellbeing as the household in question.

Alternatively, equivalised household income can be viewed as an indicator of the economic resources available to each individual in a household. The latter view underpins the calculation of income distribution measures based on numbers of people, rather than numbers of households.

### CHOICE OF SCALE

While there has been considerable research by statistical and other agencies trying to estimate appropriate values for equivalence scales, no single standard has emerged. In theory, there are many factors which might be taken into account when devising equivalence scales, such as recognising that people in the labour force are likely to face transport and other costs that can affect their standard of living. It might also be desirable to reflect the different needs of children at different ages, and the different cost levels faced by people living in different geographic areas. On the other hand, the tastes and preferences of people vary widely, resulting in markedly different expenditure patterns between households with similar income levels

and similar composition. Furthermore, it is likely that equivalence scales that appropriately adjust incomes of low income households are not as appropriate for higher income households, and vice versa. This is because the proportion of total income spent on housing tends to fall as incomes rise, and cheaper per capita housing is a major source of economies of scale that flow from people living together.

It is therefore difficult to define, estimate and use equivalence scales which take all relevant factors into account. As a result, analysts tend to use simple equivalence scales which are chosen subjectively but are nevertheless consistent with the quantitative research that has been undertaken. A major advantage of simpler scales is that they are more transparent to the user, that is, it is easier to evaluate the assumptions being made in the equivalising process.

In this publication, the 'modified OECD' equivalence scale is used. The 'modified OECD' equivalence scale has been used in more recent research work undertaken for the Organisation for Economic Co-operation and Development (OECD), has wide acceptance among Australian analysts of income distribution, and is the stated preference of key Survey of Income and Housing (SIH) users.


## DERIVATION OF EQUIVALISED INCOME

Equivalised income is derived by calculating an equivalence factor according to the chosen equivalence scale, and then dividing income by the factor.

The equivalence factor derived using the 'modified OECD' equivalence scale is built up by allocating points to each person in a household. Taking the first adult in the household as having a weight of 1 point, each additional person who is 15 years or older is allocated 0.5 points, and each child under the age of 15 is allocated 0.3 points. Equivalised household income is derived by dividing total household income by a factor equal to the sum of the equivalence points allocated to the household members. The equivalised income of a lone person household is the same as its unequivalised income. The equivalised income of a household comprising more than one person lies between the total value and the per capita value of its unequivalised income.

Equivalised household income is an indicator of the economic resources available to each member of a household. It can therefore be used for comparing the situation of individuals as well as comparing the situation of households.

When unequivalised income is negative, such as when losses incurred in a household's unincorporated business or other investments are greater than any positive income from any other sources, then equivalised income has been set to zero.


## GROSS INCOME AND EQUIVALISED DISPOSABLE INCOME

The SIH collects data on households' gross income. However, disposable income, that is, gross income less the value of income tax and Medicare levy to be paid on the gross income, is a better indicator of the resources available to a household to maintain its standard of living. Therefore, for this publication, estimates of income tax payable on gross income reported in the SIH are made by means of a tax model. The tax and Medicare estimates are subtracted from gross income to give disposable income, and the equivalence factors are applied to the estimates of disposable income. Person weighted measures of income distribution are then derived from the estimates of equivalised disposable household income. (**Appendix 1** describes the difference between person weighted and household weighted measures.)

Means and medians of both gross income and equivalised disposable income are shown in some tables in this publication to allow users to see the differences between data as collected and data as standardised to facilitate income distribution analysis. The following table shows the differences in income measures when calculated from data at different stages in the progression from gross household income to person weighted equivalised disposable household income.


**A5. FROM GROSS INCOME TO PERSON WEIGHTED EQUIVALISED DISPOSABLE INCOME**

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EQUIVALISED
DISPOSABLE

| | | Gross household income per week | Income tax per week | Disposable household income per week | HOUSEHOLD INCOME PER WEEK Household weighted | Person weighted |
|---|---|---|---|---|---|---|
| **Percentile boundaries and percentile ratios** | | | | | | |
| P10 | $ | 259 | na | 258 | 230 | 246 |
| P20 | $ | 400 | na | 392 | 275 | 299 |
| P50 | $ | 915 | na | 785 | 475 | 491 |
| P80 | $ | 1691 | na | 1339 | 752 | 743 |
| P90 | $ | 2197 | na | 1695 | 925 | 912 |
| P90/P10 | ratio | 8.50 | na | 6.58 | 4.03 | 3.70 |
| P80/P20 | ratio | 4.23 | na | 3.42 | 2.73 | 2.49 |
| **Means** | | | | | | |
| All households | $ | 1128 | 214 | 914 | 541 | 549 |
| Family composition of household | | | | | | |
| One family households | | | | | | |
| Couple family with dependent children | $ | 1589 | 332 | 1257 | 560 | 549 |
| One parent family with dependent children | $ | 760 | 90 | 669 | 398 | 391 |
| Couple only | $ | 1097 | 201 | 896 | 598 | 598 |
| Other one family households | $ | 1494 | 272 | 1222 | 607 | 621 |
| Multiple family households | $ | 1996 | 346 | 1650 | 573 | 565 |
| Non-family households | | | | | | |
| Lone person | $ | 564 | 102 | 461 | 462 | 462 |
| Group households | $ | 1272 | 238 | 1034 | 611 | 604 |

na not available

The first column in the table above shows measures calculated from gross household income, as collected in the SIH. The next column shows estimates of income tax to be paid on gross income, with the third column giving the resultant disposable household income.

Individuals with higher incomes will normally be expected to pay higher income tax than individuals with lower incomes, but this relationship is not as strong for households. A household with relatively high income may comprise only one individual with high income or it may include a number of individuals with relatively low income. The disposable income in the first situation will be lower than that in the second situation, and will result in a reranking of the households in the formation of percentiles. Therefore a household may fall into a different percentile in an analysis of disposable income compared to an analysis of gross income.

As would be expected, the difference between disposable income and gross income increases as income levels increase. At the upper boundary of the tenth percentile (P10), there is no difference at all, that is, the income tax to be paid by households with the lowest levels of gross income is negligible. In contrast, there is more than $500 per week difference between the P90 value for gross household income and the P90 value for disposable household income.

The fourth and fifth columns of the table show measures calculated from equivalised disposable household income. When household weighted, the percentiles and means are calculated with respect to the numbers of households concerned. When person weighted, they are calculated with respect to the numbers of people within households. While the ranking underlying the formation of percentiles is the same for the two income measures, the boundaries between the percentiles differ because household weighted percentile boundaries create subgroups with equal numbers of households while person weighted percentile boundaries create subgroups with equal numbers of persons. The extent to which the boundaries differ reflects the extent to which the average household size differs between percentiles.

The person weighted estimate of P10 ($246) is higher than the household weighted estimate of P10 ($230). This implies that the households with the lowest rankings of equivalised disposable household income tend to comprise a lower than average number of persons. In other words, the 10% of people with the lowest income make up more than the 10% of households with the lowest income.

For lone person households, the two measures of equivalised disposable income are the same as each other ($462) and are just a little higher than disposable income ($461). Equivalised disposable income for lone person households is approximately the same as disposable income, because the equivalising factor for such households is 1.0. The reason for the slight difference between them is that some households have

negative disposable income and their values are reset to zero before equivalising is carried out.

For all other types of household composition, equivalised disposable income is lower than disposable income, since income is adjusted to reflect household size and composition. Mean equivalised disposable income for couple only households is the same for both the household weighted and the person weighted measures since there are always two and only two persons in such households. For most other multi-person households, person weighted mean income is lower than the household weighted mean. This implies that, within each type, larger households tend to have lower equivalised household income.

# Sampling Variability (Appendix)

## APPENDIX 4 SAMPLING VARIABILITY

### INTRODUCTION

The estimates in this publication are based on information obtained from the occupants of a sample of dwellings. Therefore, the estimates are subject to sampling variability and may differ from the figures that would have been produced if information had been collected for all dwellings. One measure of the likely difference is given by the standard error (SE), which indicates the extent to which an estimate might have varied because only a sample of dwellings was included. There are about two chances in three that the sample estimate will differ by less than one SE from the figure that would have been obtained if all dwellings had been included, and about 19 chances in 20 that the difference will be less than two SEs. Another measure of the likely difference is the relative standard error (RSE), which is obtained by expressing the SE as a percentage of the estimate.

For estimates of population sizes, the size of the SE generally increases with the level of the estimate, so that the larger the estimate the larger the SE. However, the larger the sampling estimate the smaller the SE in percentage terms (RSE). Thus, larger sample estimates will be relatively more reliable than smaller estimates.

In the tables in this publication, only estimates with RSEs of 25% or less are considered reliable for most purposes. Estimates with RSEs greater than 25% but less than or equal to 50% are annotated by an asterisk to indicate they are subject to high SEs and should be used with caution. Estimates with RSEs of greater than 50%, annotated by a double asterisk, are considered too unreliable for general use and should only be used to aggregate with other estimates to provide derived estimates with RSEs of 25% or less.

RSEs for all tables are provided. The RSEs have been derived using the group jackknife method. If needed SEs can be calculated using the estimates and RSEs.

### RSEs OF COMPARATIVE ESTIMATES

#### Proportions and percentages

Proportions and percentages, which are formed from the ratio of two estimates, are also subject to sampling errors. The size of the error depends on the accuracy of both the numerator and the denominator. For proportions where the denominator is an estimate of the number of households in a grouping and the numerator is the number of households in a sub-group of the denominator group, the formula for the RSE is given by

$$RSE\%\left(\frac{x}{y}\right) = \sqrt{[RSE\%(x)]^2 - [RSE\%(y)]^2}$$

#### Differences between estimates

The difference between survey estimates is also subject to sampling variability. An approximate SE of the difference between two estimates (x–y) may be calculated by the formula:

$$SE(x-y) = \sqrt{[SE(x)]^2 + [SE(y)]^2}$$

This approximation can generally be used whenever the estimates come from different samples, such as two estimates from different years or two estimates for two non-intersecting subpopulations in the one year. If the estimates come from two populations, one of which is a subpopulation of the other, the standard error is likely to be lower than that derived from this approximation, but there is no straightforward way of estimating how much lower.

## Publication (I-Note) - Publication

29/08/2008 Note: A PDF version of the publication has been added to this issue. All material was previously available in HTML format, and the data are unchanged. The PDF file has been created from other electronic formats and does not necessarily have the same appearance and functionality as later releases.